

REMARKS

Claims 1-21, 23-25, 27-43, 45, and 47-60 were pending. Claims 5-7, 9, 12-14, 17-21, 25, 27, 29, 31-34, 36-39, 41, 45, 47-52 and 54-60 were withdrawn from consideration and claims 1-4, 7, 8, 10, 11, 15, 16, 23, 24, 28, 30, 35, 40, 42, 43, and 53 stand rejected. By virtue of this response, claims 1, 24, 30, and 43 have been amended. The amendments to the claims are fully supported by the claims as originally presented and paragraph [0038], for example. No new matter has been added. Accordingly, claims 1-21, 23-25, 27-43, 45, and 47-60 are currently under consideration.

For the Examiner's convenience, Applicants' remarks are presented in the same order in which they were raised in the Office Action.

Response to Previous Amendment

The amendment filed December 19, 2005 stands objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. In particular, the language "an image of the information layer is formed having a size substantially equal to an incident surface of the storage medium."

Without conceding that the above recited features are new matter, Applicants have deleted the above features from claims 1, 24, 30, and 43. Accordingly, the rejection is now moot.

Claim Rejections under 35 USC §112

A. Claims 1-4, 7-8, 10-11, 15-16, 23-24, 28, 30, 35, 40, 42-43, and 53 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement based on the newly added features recited with respect to the objection under 35 U.S.C. 132(a).

Without conceding that the recited features fail to comply with the written description requirement, Applicants have deleted the above feature from claims 1, 24, 30, and 43. Accordingly, the rejection is now moot.

B. Claims 1-4, 7-8, 10-11, 15-16, 23-24, 28, 30, 35, 40, 42-43, and 53 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

Without conceding that the recited features fail to comply with the enablement requirement, Applicants have deleted the features of “an image of the information layer is formed having a size substantially equal to an incident surface of the storage medium,” from independent claims 1, 24, 30, and 43. Accordingly, Applicants submit that the rejection under this heading, and with respect to the deleted features, is now moot.

Applicants traverse the rejection with respect to claim 24 and submit that claim 24 is not a single means claim. In particular, claim 24 clearly recites a “data mask” having an information layer adapted to be relayed and recorded to a holographic medium. Accordingly, there is no “means” recitation, and therefore claim 24 is not a single means claim (see, e.g., MPEP 2164.08(a)).

Claim Objections

Claims 1-4, 7-8, 10-11, 15-16, 23-24, 28, 30, 35, 40, 42-43, and 53 stand objected to because of the following informalities:

(1) “The newly amended phrase ‘an image of the information layer is formed having a size substantially equal to an incident surface of the storage medium’, is confusing and indefinite since it is not clear what is considered to be the ‘incident surface’?”

Without conceding that the recited features are confusing or indefinite, Applicants have deleted the above features from claims 1, 24, 30, and 43. Accordingly, the objection is now moot.

(2) “The phrase ‘an image of the information layer is formed a plane located outside of the holographic storage medium’ recited in amended claim 4 is confusing and wrong, since it is really not clear where does the image is formed.”

As stated above, without conceding to the objection, the recited features of forming an image equal to an incident surface of the storage medium have been deleted; accordingly, Applicants believe the object is now moot. Further, Applicants submit that forming an image (e.g., focusing the image) outside of the storage medium is clear and definite (i.e., it is not “confusing and wrong”). Such a feature is clearly described in the present application, e.g., at least in paragraphs 29, 41, 52, 68, 71, and 76, and would be understood by one of ordinary skill in the art. Accordingly, the rejection on this basis should be withdrawn.

(3) “The phrase ‘*recorded in parallel*’ recited in claim 43 is *confusing and indefinite* in particular it is confusing with respect to the newly added phrase ‘*an image of the information layer is formed having size substantially equals to an incident surface of the storage medium*’.”

Without conceding that the recited features are confusing Applicants have deleted the above features from claim 43. Accordingly, the objection is now believed moot.

Claim Rejections under 35 USC §102

A. Claims 1, 3, 7, 10, 11, 23, 24, 30, and 35 stand rejected under 35 U.S.C. 102(b) as being anticipated by the patent issued to Snyder et al. (U.S. Patent No. 6,064,586).

Applicants have amended independent claims 1, 24, and 30 to recite that “the data mask includes an information layer that is divided into multiple data pages, each data page comprising a plurality of data pixels and at least one feature for page-wise error correction upon readout.” The added features are described at least in paragraph [0038] of the application as filed and no new matter has been added. For example, the data pages may include a feature such as a calibration mark that allows for page-wise error correction on readout, thereby potentially increasing the readout rate and accuracy.

Applicants submit that Snyder does not disclose or suggest a method or system wherein each data page includes a plurality of data pixels and a feature for page-wise error correction on

readout. In particular, even if the storage sectors 16 are taken as the plurality of data pages (as stated by the Examiner on page 6 of the Office Action), Snyder fails to disclose or suggest that the any of the storage sectors include both a plurality of data pixels and at least one feature for page-wise error correction upon readout of the storage sectors. For example, Snyder does not disclose or suggest any feature of the storage sectors that may be used for *page-wise* error correction upon readout of the storage sector.

Accordingly, for at least these reasons, Snyder fails to disclose or suggest the features of claims 1, 24, and 30 as amended and the rejection should be withdrawn.

B. Claims 1, 3, 7, 10, 11, 23, 24, 30, and 35 stand rejected under 35 U.S.C. 102(b) as being anticipated by the patent issued to Gusest et al. (U.S. Patent No. 4,318,581).

Applicants have amended independent claims 1, 24, and 30 to recite that “the data mask includes an information layer that is divided into multiple data pages, each data page comprising a plurality of data pixels and at least one feature for page-wise error correction upon readout.” Gusest does not disclose or suggest these features of claims 1, 24, and 30. In particular, even if the data arrays 42a-42f are taken as the plurality of data pages (as stated by the Examiner on page 7 of the Office Action), Gusest fails to disclose or suggest that the any of the data arrays 42a-42f include both a plurality of data pixels and at least one feature for page-wise error correction upon readout of the data pages.

Accordingly, for at least these reasons, Gusest fails to disclose or suggest the features of claims 1, 24, and 30 as recited and the rejection should be withdrawn.

C. Claims 1, 3, 7, 23, 24, 30, 35, 43, and 53 stand rejected under 35 U.S.C. 102(b) as being anticipated by the patent issued to Blaum et al (U.S. Patent No. 5,510,912).

Applicants have amended independent claims 1, 24, 30, and 43 to recite that “the data mask includes an information layer that is divided into multiple data pages, each data page comprising a plurality of data pixels and at least one feature for page-wise error correction upon

readout.” Blaum does not disclose or suggest these features of claims 1, 24, 30 and 43. Initially, Applicants submit that although Blaum discloses a spatial light modulator for forming data pages, there is no disclosure or suggestion that the spatial light modulator is addressed to produce a single information layer having a plurality of data pages as recited by the present claims. Furthermore, even if the spatial light modulator were to form such an information layer, there is no disclosure or suggestion that any of the data pages include both a plurality of data pixels and at least one feature for page-wise error correction upon readout of the data pages. It is noted that Blaum discloses error control arrays, however, these features are not for page-wise error correction on readout; rather, these features are to avoid long periodic stretches of contiguous dark or light regions within the stored data page and to have the total amount of illuminate regions throughout the entire data page constant. (Blaum, Col. 3, lines 16-31.)

Accordingly for at least these reasons, Blaum fails to disclose or suggest the features of claims 1, 24, 30, and 43 as recited and the rejection should be withdrawn.

D. Claims 1, 4, 10, 11, 23, 24, 30, 43, and 53 stand rejected under 35 U.S.C. 102(e) as being anticipated by the patent issued to Edwards (U.S. Patent No. 6,538,776).

Applicants have amended independent claims 1, 24, 30, and 43 to recite that “the data mask includes an information layer that is divided into multiple data pages, each data page comprising a plurality of data pixels and at least one feature for page-wise error correction upon readout.” Edwards does not disclose or suggest these features of claims 1, 24, 30, and 43. In particular, even if the information layer is “arbitrarily divided up” into multiple data pages (as stated by the Examiner on page 10 of the Office Action), Edwards fails to disclose or suggest that any of the arbitrarily divided data page include both a plurality of data pixels and at least one feature for page-wise error correction upon readout of the data pages.

Accordingly, for at least these reasons, Edwards fails to disclose or suggest the features of claims 1, 24, 30, and 43 as recited and the rejection should be withdrawn.

Claim Rejections under 35 USC §103

A. Claims 2, 4, and 28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Snyder et al.

Claims 2, 4, and 28 depend from claims 1 and 24 respectively and are allowable over Snyder for at least similar reasons as claims 1 and 24 discussed above. Accordingly, the rejection should be withdrawn.

B. Claims 2, 4, 10, and 28 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Blaum et al.

Claims 2, 4, 10, and 28 depend from claims 1 and 24 respectively and are allowable over Blaum for at least similar reasons as claims 1 and 24 discussed above. Accordingly, the rejection should be withdrawn.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 495812004700. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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